

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of claims:**

1. (Previously presented) A device for generating images and/or projections by means of an imaging method, which device includes a device for the detection of input radiation which includes at least one acquisition element which comprises a sensor with a  $\text{Pr}^{3+}$ -activated scintillator for converting the input radiation into UV radiation, a color converter which contains a luminous substance for converting the UV radiation to an optical signal, and a photodiode which converts an optical signal into an electrical signal.
2. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the  $\text{Pr}^{3+}$ -activated scintillator is chosen from the group  $\text{LaPO}_4\text{:Pr}$ ,  $\text{LuF}_3\text{:Pr}$ ,  $\text{LuCl}_3\text{:Pr}$ ,  $\text{LuBr}_3\text{:Pr}$ ,  $(\text{Lu}_{2-x}\text{Y}_x)\text{SiO}_5\text{:Pr}$ , where  $0 \leq x \leq 1$ ,  $(\text{Lu}_{1-x}\text{Y}_x)\text{Si}_2\text{O}_7\text{:Pr}$ , where  $0 \leq x \leq 1$ ,  $(\text{Lu}_{1-x}\text{Y}_x)\text{BO}_3\text{:Pr}$ , where  $0 \leq x \leq 1$ , and  $\text{Ca}_{1-2y}\text{Li}_2\text{SiO}_4\text{:Pr}_y\text{Na}_y$ , where  $0.001 \leq y \leq 0.2$ .
3. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the device is arranged to carry out the PET method as the imaging method.
4. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the device is arranged to carry out the SPECT method as the imaging method.
5. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the device is arranged to carry out the imaging method by means of X-rays.

6. (Cancelled)
7. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the color converter comprises a polymer light guide which is doped with the luminous substance that is excited by UV radiation.
8. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the color converter comprises a polymer light guide and a separate layer with the luminous substance that is excited by UV radiation.
9. (Original) A device for the detection of input radiation which includes at least one acquisition element which comprises a sensor with a  $\text{Pr}^{3+}$ -activated scintillator for converting the input radiation into UV radiation and a photodiode which converts an optical signal into an electrical signal.
10. (Previously presented) A device for detecting input radiation as claimed in claim 9, further comprising a color converter which contains a luminous substance which can be excited by UV radiation, wherein the color converter is arranged between the sensor and the photodiode.
11. (Previously presented) A device for detecting input radiation as claimed in claim 9, wherein the acquisition element comprises an array of photodiodes, and further wherein the array of photodiodes forms a first layer and the sensor forms a second layer, wherein the first and second layers are combined to form a system of layers.
12. (Previously presented) A device for detecting input radiation as claimed in claim 9, wherein a decay time of the scintillator is approximately 9 ns.
13. (Previously presented) A device for detecting input radiation as claimed in claim

9, wherein a decay time of the scintillator is approximately 16 ns.

14. (Currently amended) A device for detecting input radiation as claimed in claim 9, wherein the  $\text{Pr}^{3+}$ -activated scintillator is  $\text{Ca}_{1-2y}\text{Li}_2\text{SiO}_4:\text{Pr}_y\text{Na}_y$ , where  $0.001 \leq y \leq 0.2$ .

15. (Previously presented) A device for detecting input radiation as claimed in claim 9, wherein the  $\text{Pr}^{3+}$ -activated scintillator is  $\text{LaPO}_4:\text{Pr}$ .

16. (Previously presented) A device for detecting input radiation as claimed in claim 9, wherein the  $\text{Pr}^{3+}$ -activated scintillator is one of  $\text{LuCl}_3:\text{Pr}$ ,  $\text{LuBr}_3:\text{Pr}$ ,  $(\text{Lu}_{2-x}\text{Y}_x)\text{SiO}_5:\text{Pr}$ , where  $0 \leq x \leq 1$ ,  $(\text{Lu}_{1-x}\text{Y}_x)\text{Si}_2\text{O}_7:\text{Pr}$ , where  $0 \leq x \leq 1$ , and  $(\text{Lu}_{1-x}\text{Y}_x)\text{BO}_3:\text{Pr}$ , where  $0 \leq x \leq 1$ .

17. (Currently amended) An imaging method, comprising:  
receiving one of an X-ray and a  $\gamma$  quantum at a  $\text{Pr}^{3+}$ -activated scintillator, wherein the  $\text{Pr}^{3+}$ -activated scintillator is one of  $\text{LuCl}_3:\text{Pr}$ ,  $\text{LuBr}_3:\text{Pr}$ ,  $(\text{Lu}_{2-x}\text{Y}_x)\text{SiO}_5:\text{Pr}$ , where  $0 \leq x \leq 1$ ,  $(\text{Lu}_{1-x}\text{Y}_x)\text{Si}_2\text{O}_7:\text{Pr}$ , where  $0 \leq x \leq 1$ , and  $(\text{Lu}_{1-x}\text{Y}_x)\text{BO}_3:\text{Pr}$ , where  $0 \leq x \leq 1$ ;  
receiving UV radiation emitted from the scintillator at a color converter in response to receipt of the one of the X-ray and the  $\gamma$  quantum;  
receiving a light signal emitted from the color converter at a photodiode;  
generating an electrical signal in response to receipt of the light signal; and  
generating an image based at least in part upon the generated electrical signal.

18. (Previously presented) The imaging method of claim 17, wherein the color converter includes a polymer light guide that is doped with a luminous substance.

19. (Previously presented) The imaging method of claim 17, wherein the color converter includes a polymer light guide and a separate layer with a luminous substance.

Application No. 10/524,959  
Amdt. Dated: September 25, 2007  
Reply to Office Action Dated: August 21, 2007

20. (Previously presented) A device for generating images and/or projections as claimed in claim 1, wherein the luminous substance includes an organic material.